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1-15-04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Mullins et al.	)
For:	Method for RF Network Virtual End Nodes	)
Serial No.:	09/108,463	)
Filed:	July 1, 1998	)
Examiner:	Nguyen, T.	)
Art Unit:	2665	)

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Board of Patent Appeals and Interferences

APPELLANTS' BRIEF

This brief is in furtherance of the Notice of Appeal, filed via facsimile transmission on September 11, 2003.

The fees required under § 1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is being transmitted by facsimile, and therefore the requirement that it be transmitted in triplicate is believed to be waived.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 1.192(c)):

I REAL PARTY IN INTEREST

II RELATED APPEALS AND INTERFERENCES

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III STATUS OF CLAIMS
IV STATUS OF AMENDMENTS
V SUMMARY OF INVENTION
VI ISSUES
VII GROUPING OF CLAIMS
VIII ARGUMENTS
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IX APPENDIX OF CLAIMS INVOLVED IN THE APPEAL

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Motorola, Inc., a Delaware corporation.

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences.

III. STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Number of claims in the application are: 29

B. STATUS OF ALL THE CLAIMS

1. Claims canceled: 1-20
2. Claims withdrawn from consideration but not canceled: none
3. Claims pending: 21-29
4. Claims allowed: none
5. Claims objected to: none
6. Clams rejected: 21-29

C. CLAIMS ON APPEAL

The claims on appeal are: 21-29

IV. STATUS OF AMENDMENTS AFTER FINAL

Amendment E, dated January 9, 2004, is being filed at the same time as the appeal brief. The Examiner has not yet had a chance to consider the amendment, consequently the amendment to the claims has not yet been entered.

V. SUMMARY OF INVENTION

The invention pertains to a method for sending an IP packet (50; FIG. 2) to a physical end node (21, 22, 31, 32, 41-43), and an RF network. The IP packets (50) are routed to the physical end nodes, via an access point (12, 14, 16). In at least one embodiment, the access points communicate with the physical end nodes via a wireless communication link (17-19). Instead of associating an IP address with a corresponding one of the physical end nodes (21, 22, 31, 32, 41-43), an IP address is associated with the access point (12, 14, 16) (pg. 4, lines 1-4), and at least a corresponding virtual end node, which includes one or more physical end nodes that are communicatively coupled to the network via the access point. In order to uniquely associate the IP packet (50) with the corresponding physical end node (21, 22, 31, 32, 41-43), an ID of the end node (52), which is the intended recipient of the IP packet, is encoded in the associated user data (54) or IP packet data portion (pg. 3, lines 31-33).

Associating a plurality of physical end nodes (21, 22) with a single destination IP address (56) corresponding to a common access point (12) is possible, at least in part, because the routing of IP packets for each of the physical end nodes (21, 22) is the same, where the IP packet is routed to the associated access point (12), and then wirelessly broadcast to the physical end nodes (21, 22), which is then capable of being received by all of the physical end nodes communicatively coupled to the access point (i.e. within communication range), including the intended physical end node recipient.

Each of the associated physical end nodes (21, 22) receives the packet and

decodes at least a portion (52) of the data field (54), which is separate from the internet protocol routing information (51), and which includes the ID of the physical end node (pg. 4, lines 22-24). If the ID of the physical end node (52) matches the identity of the particular physical end node (21, 22), indicating that the physical end node (21, 22) is the destination of the IP packet (50), the physical end node then receives and processes the remaining contents of the data field (54) including the user data (53) (pg. 4, lines 24-28; pg. 5, lines 6-9; pg. 5, line 31 to pg. 6, line 2).

VI. ISSUES

1. Whether claims 21-29 have been improperly rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (US Patent No. 5,570,366), in view of McCreery et al. (US Patent No. 5,787,253).

VII. GROUPING OF CLAIMS

Group 1: Claims 21-29

VIIIA. ARGUMENTS -- REJECTIONS UNDER 35 U.S.C. § 103

The Federal Circuit has repeatedly emphasized that, with respect to obviousness, the standard for patentability is the statutory standard. The inquiry is whether the claimed subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. In this regard, see for example, Monarch Knitting Machinery Corp. v. Saulzer Maurat GMBH, 139 F.3d 877, 881, 45 USPQ2d 1977, 1981 (Fed. Cir. 1998).

For purposes of formulating an obviousness type rejection, the Patent and Trademark Office (PTO) has the initial burden of presenting a prima facie case. In re Mayne, 104 F.3d 1339, 1341, 41 USPQ2d 1451 (Fed. Cir. 1997). In order to establish a prima facie case of obviousness, it must be shown that the prior art reference, or references when combined, teach or suggest all of the claim limitations. Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d 1568, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996), In re Royka, 490 F.2d 981, 180 USPQ 580, 583 (CCPA 1974). Furthermore, the showing of a suggestion, teaching, or motivation to

combine prior teachings "must be clear and particular." In re Dembiczak, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). Still further, when the teachings of the references are considered, the references must be considered in their entirety, i.e. as a whole. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). These requirements are consistent with the Patent and Trademark Office's own examination guidelines governing the formation of obvious type rejections, see MPEP §2142.

In rejecting the claims of the present application, the Examiner has attempted to apply the combined teachings of a pair of references. More particularly, the Examiner has rejected claims 21-29 under 35 U.S.C. 103(b) as being unpatentable over Baker et al. (US Patent No. 5,570,366) in view of McCreery et al. (US Patent No. 5,787,253). However in attempting to apply the combined teachings of Baker et al., '366, and McCreery et al., '253, to the claims of the present application, the Examiner has taken a couple of passages out of context and focused on the same in isolation, and in so doing has misconstrued the teachings of the cited references, and misapplied the same to the present invention. However, when the passage is viewed relative to the reference as a whole, the failure of the references to make known or obvious the claims of the present application becomes more clear.

Generally, an IP packet will include multiple different sections. More specifically, the packets will often include a header portion and a data portion. Typically included in the header portion is routing information. An illustration of this is provided in McCreery et al., '253, relative to FIG. 5a, where a local network header 505, an IP header 510, and a TCP header 515 are identified independent of the application data 520. More specifically, the local network header 505 includes local network source and destination addresses, the IP header 510 includes source and destination internet protocol addresses, and the TCP header 515 includes source and destination port addresses (col. 9, lines 39-44), which is not unlike the internet protocol routing information 51 illustrated in FIG. 2 of the present application, which includes both the source 58 and destination 57 MAC addresses, and the source 55 and destination 56 IP addresses.

However, unlike the cited references, the present application includes the ID of a physical end node 52, which is encoded as part of the user data portion 54, separate from the normal internet protocol routing information 51. Still further, in the present application the destination

IP address alternatively references a virtual internet protocol address, which instead of referencing a particular physical end node, corresponds to a plurality of end nodes associated with a particular access point. Neither of these elements, which are provided in both independent claims 21 and 28, and at least indirectly in all of the other pending claims, are provided in either of the cited references, separately or in combination. Further yet, neither of the cited references provide for the physical end nodes to decode the data field of the IP packet for determining the destination identification, which is separate from the IP address, and determining whether it is the destination of the IP packet.

Alternatively, in at least Baker et al., '366, the reference is principally concerned with filtering out broadcast messages at the access point, where none of the intended recipients of a particular broadcast message is associated with a particular access point. In Baker et al., '366, each of the physical end nodes are associated with an IP address, a list of which are maintained in a table corresponding to each of the access points. There is no virtual internet protocol address corresponding to a plurality of physical end nodes. Still further, the IP address associated with each of the physical end nodes are associated with the typical routing information field(s), and not the user data information.

In attempting to equate the teaching of Baker et al., '366, to at least some of the claimed features, the Examiner focuses on col. 9, lines 2-10 and col. 12, lines 7-11. However, when viewed in the context of the entire reference, it becomes clear that the corresponding passages do not apply to the portions of the present application, that the Examiner attempts to equate them to. More specifically, the Examiner focuses on the particular passage where the access point examines the data field of the packet to determine if the destination IP address of the frame is in the IP table, and wherein when the destination IP address exists within the IP table, the access point passes the broadcast frame.

However, it is clear when viewed in the context of the entire application, that the destination IP address corresponds to the traditional routing information (i.e. the destination IP address), and not a destination identification, separate from the (virtual) IP address, which is encoded as part of the user data information. Specific note is made to FIG. 6 of Baker et al., '366, where the fields which are important to the broadcast filtering module are shaded. These

are further identified as the hardware (or MAC) address field, the protocol identifier field, and the protocol name or protocol address of the destination station (col. 3, lines 57-65). The data information in FIG. 6 is specifically unshaded.

Still further, the examiner focuses on language, where only those messages which will be responded to by a node are transmitted by the access point, where the identity and the communication parameters in the received message are compared to entries in said table. However as noted previously, in the cited passage, it is the access point and not the physical end node, which is performing the comparison. In absence of a match, the access point precludes transmission. Still further, neither of the specifically noted passages, identifies the presence or comparison of identification information, which is separate from the traditional routing information, that is encoded in the user data information, as being used to identify the intended recipient. McCreery et al., '253, fails to make up for any of the above noted deficiencies.

In view of the above analysis, the applicants would assert, that the Examiner has failed to establish that any of the cited references, either separately or in combination, make known or obvious all the features of any of the presently pending claims, and therefore has failed to establish at least a prima facie case for an obvious type rejection. The applicants would respectfully request that the claims be reconsidered in view of the above noted reasons, that the Examiner's decision to finally reject the presently pending claims be overturned, and that the claims be permitted to proceed to allowance.

Respectfully submitted,

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IX. APPENDIX OF CLAIMS

The following is the text of all of the pending claims including the claims specifically involved in this appeal:

1-20. (canceled)

21. A method for sending an IP packet to a physical end node comprising the steps of:

creating the IP packet comprising:

a virtual internet protocol address corresponding to a plurality of physical end nodes served by a first access point; and

a data field comprising:

a destination identification corresponding to one of the physical end nodes of the plurality of physical end nodes, said one of the physical end nodes being a destination for the IP packet; and

user data;

communicating the IP packet to a first access point, serving a plurality of physical end nodes, over an RF network including one or more access points, communicatively coupled to one another, wherein at least some of the access points, each, serve one or more physical end nodes, via one or more wireless communication links, and one or more of the access points are connected to a wired network;

transmitting, by the first access point, the IP packet;

decoding, by the plurality of physical end nodes served by the first access point, the data field of the IP packet for determining the destination identification of the IP packet; and

determining by each of the plurality of physical end nodes whether it is the destination for the IP packet.

22. The method of claim 21 wherein the step of determining is accomplished by each of the physical end nodes comparing their own identity with the destination identification in the user data of the IP packet.

23. The method of claim 21 further comprising the step of:

processing the IP packet by the physical end node that is the destination for the IP packet.

24. The method of claim 21 further comprising:

determining by the plurality of physical end nodes that are not the destination of the packet that the IP packet is not for them.

25. The method of claim 24 further comprising:

ignoring the IP packet by the physical end nodes that are not the destination of the packet.

26. The method of claim 21 wherein the step of sending is accomplished by using internet protocol routing.

27. The method of claim 21 wherein the step of transmitting by the access point is transmitting by the access point via a wireless link.

28. A RF network comprising:

a wired network;

a first access point operable for communication via a first wireless link;

a first plurality of physical end nodes communicating with the first access point via the first wireless link, sharing a first virtual internet protocol address and, each, having a separate destination identification included within a data field of any IP packets intended for the corresponding physical end node; and

a second access point connected to the wired network and to the first access point via a second wireless link.

29. The RF network of claim 28 further comprising:

a second plurality of physical end nodes communicating with the second access point via the second wireless link, sharing a second virtual internet protocol address and having separate identifications.